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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/687,231	10/16/2003	James T. Beals	EH-10610 (03-544)	8054

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EXAMINER	
LIN, KUANG Y	

ART UNIT	PAPER NUMBER
1725	

DATE MAILED: 09/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/687,231	BEALS ET AL.	
	Examiner	Art Unit	
	Kuang Y. Lin	1725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 August 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *11-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *11-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1. Claims 11-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

These claims define the refractory metal core in term of a wax die. However, the wax die is extraneous to the core.

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.
>
> (f) he did not himself invent the subject matter sought to be patented.
>
> (g)(1) during the course of an interference conducted under section 135 or section 291, another inventor involved therein establishes, to the extent permitted in section 104, that before such person's invention thereof the invention was made by such other inventor and not abandoned, suppressed, or concealed, or (2) before such person's invention thereof, the invention was made in this country by another inventor who had not abandoned, suppressed, or concealed it. In determining priority of invention under this subsection, there shall be considered not only the respective dates of conception and reduction to practice of the invention, but also the reasonable diligence of one who was first to conceive and last to reduce to practice, from a time prior to conception by the other.

3. Claims 11-15 and 18-24 are rejected under 35 U.S.C. 102(e) as being anticipated by Eldridge et al (US 6,807,734).

In col. 11, line 5 of the reference, it states that W, Mo and other refractory metals, and their alloy may be used for making spring contact elements. The

configuration or shape of the spring contact elements shown in the drawings, particularly figures 3A-3C, are similar to the refractory metal core as claimed. The element 108, 308 in figures 3A and 3B of the reference are considered as claimed spring tab. With respect to claim 12, since there are a plurality of spring contact elements 300, there will be a plurality of elements 108, 308.

4. Claims 11-15 and 18-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Grabbe et al. or Yoshida et al.

The element 14 of Grabbe et al. and elements 70, 80 of Yoshida et al., respectively, may be made of Tungsten (see col. 2, line 42 in Grabbe and col. 3, line 7 in Yoshida). The portion 76 of element 14 of Grabbe and the bending portion in element 80 of Yoshida, respectively, are considered to be a spring tab or central portion as claimed.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 11-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 2004/0016119 to Eldridge et al. and further in view of US 6,807,734 to Eldridge et al.

Publication '119 substantially shows (see sections [0004], [0053] and figures 5A-5C and 7B) the invention as claimed except that it does not show what spring contact array is made of. However, in [0004] of Publication '119 as well as col. 11 of patent '734, they disclose that the spring contact may be made of tungsten, molybdenum or other refractory metal. It would have been obvious to make the spring contact of Publication '119 out of refractory metal in view of patent '734. The elements 241, 244 shown in figure 5C and element 257 shown in figure 7B are considered as spring tabs. The slot 260 shown in figure 7B is considered as locking means.

8. Claims 11-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kelso et al. and further in view of Terpay.

Kelso et al. substantially show the invention as claimed except that they do not show the material for making pins 44. However, Terpay shows that it is conventional to made core locating means out of molybdenum, tungsten, or tantalum. It would have been obvious to make the pin 44 of Kelso et al. with the refractory metal in view of Terpay. In Kelso et al. one branch of the fork in pin 44 is considered as a spring tab or a second end. The other branch of the fork is

considered as first end. With respect to claim 16 and 17, when joining two parts together it is conventional to provide a hole or recess in one of the parts as a locking means such that the material of the other part can be filled inside the hole or recess to interlock the parts (see ,for example, the patent to Egoshi et al.)

9. Applicant's arguments filed August 29, 2005 have been fully considered but they are not persuasive.

a. In page 6 of the remarks applicant stated that the claim do not define the refractory metal core in terms of a wax die. However, applicant argued throughout the remarks that the claimed refractory metal core is patentable over the cited prior art references since none of these references is directed to a refractory metal core for maintaining a core in a desired position with respect to a wax die. Thus, applicant does define the refractory metal core in term of wax die. **Without the wax die into which the refractory metal core is placed the claimed refractory metal core is nothing more than a piece of refractory metal with the claimed shape.**

b. Applicant argued throughout the remarks that each of the cited references is not directed to a refractory metal core for maintaining a core in a desired position with respect to the wax die. However, each of the cited references shows a refractory metal wire having the shape or configuration as claimed. Thus, those claims are either anticipated or obvious in view of the cited prior art references. Namely, the refractory metal wire of the prior art reference is

capable of performing the function as claimed though the wire is disclosed to be used in other environment.

c. In page 7 of the remarks applicant stated that neither Kelso nor Terpay teaches or suggests a core element having the claimed planar central portion and the integrally formed spring tab means. However, in Kelso the portion of pin 44 where the three branches coming together, that portion of each branch is considered the planar central portion with respect to other two branch wherein each of the two branch has end which is capable of functioning as engaging means.

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kuang Y. Lin whose telephone number is 571-272-1179. The examiner can normally be reached on Monday-Friday, 10:00-6:30,.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas X. Dunn can be reached on 571-272-1171. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kuang Y. Lin
Primary Examiner
Art Unit 1725

9-7-05